

R<sup>5</sup> and R<sup>6</sup> are linking groups independently selected from the group consisting of substituted or unsubstituted alkyl and substituted or unsubstituted heteroalkyl;

D is a donor of light energy; and

Q is a quencher of light energy.

REMARKS

Applicants have amended the Specification to correct certain editorial errors. In the Abbreviations section, the term "BHQ" is added and defined. "BHQ" refers to Black Hole Quenchers, a genus of dark quenchers of use in the present invention. The use of this term and these agents is supported at page 24, lines 1-5. Thus, no new matter is added by this amendment.

At page 9, the term "and oligonucleotide" is added to the definition of "nucleic acid" to clarify that in the present application, these terms are generally used interchangeably. Tying these terms together does not inordinately stretch the meaning of either term. The addition of "oligonucleotide" to the definition is supported by the specification. For example Figure 1 displays and oligonucleotide probe encompassed within the scope of claims 1, 19 and 26, which refer to "nucleic acid" and "nucleic acid sequence." Thus, no new matter is added by this amendment.

At page 26, the sentence fragment "Presently preferred" is deleted as unnecessary. No new matter is added thereby.

At page 28, the term "BHQ" is replaced with the word "groups." The section of the Specification in which the amended term is found focuses on the conjugation of various components of the probes of the invention using "reactive groups." "Reactive groups" is explicitly supported at page 27, line 32 and "BHQ" is out of place in this location. Thus, no new matter is added by this amendment.

At page 29, the term "BHQ" is replaced with the term "probe component." A BHQ is an example of a "probe component," which can be incorporated into the probe via a reactive analogue (*i.e.* one including a reactive group). One of skill would understand that the description of protected and non-protected reactive groups set forth in the context of BHQs is equally applicable to other probe components, particularly since the application discloses that

the probe components are linked together through the use of reactive functional groups (*see, e.g., Example 1*). Thus, no new matter is added by this amendment.

At page 48, the typographical error "AN" is replaced with the proper "An." No new matter is added thereby.

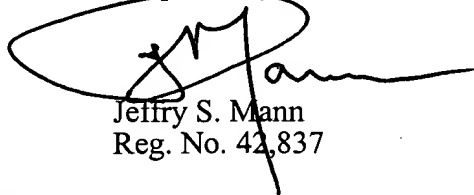
Claims 19 and 26 are amended by adding the recitation that Nu<sup>1</sup> and NU<sup>2</sup> are independently selected from the group consisting of both nucleotide and nucleoside residues. This amendment is supported in the specification, for example, in Figure 1. Figure 1 displays a probe of the invention in which both nucleoside and nucleotide residues are bound to the probe via a phosphate linkage (*i.e., Nu<sup>2</sup> is bound to the probe via a phosphate linkage and the 3'-O of the 3'-OH of Nu<sup>2</sup> is part of a free phosphate residue*). As this amendment is supported by the specification as filed, no new matter is added.

#### CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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